

Remarks

Claims 1 to 59 are currently of record in the present application. However, all claims currently stand as being rejected under 35 USC §103 as being obvious over US Patent No. 6071419. The Applicant respectfully traverses this objection for the reasons provided hereinbelow.

In view of the comments provided hereinbelow, the Applicant contends that no amendment to the claims or specification are currently required.

Rejections under 35 USC § 103

Claims 1, 3-14, 22-28, 30-35, 39, 41-50, 58 and 59 currently stand as being rejected under 35 USC § 103(a) as being obvious over Beier et al. (US 6071419 - hereinafter "Breir"). The Applicant respectfully traverses this rejection.

The present invention is directed to a filter matrix that can be used in applications such as over the grill or other cooking equipment of a restaurant, or the like, and utilizes a series of metal filter layers having a predetermined shape and orientation so as to create a labyrinthine pathway through the filter structure. It is important to note that metal filter layers are used in order to avoid those issues which will result by use of a fibrous batt type of filter material.

For example, the fibrous material might be flammable, or with plugged with collected organic matter, will become flammable. This would clearly be a disadvantage over a cooking grill. Further, a fibrous batt can be subject to the loss of small fibres which might fall on the grill or cooking equipment. This would cause a sanitary or health issue.

Also, by providing a series of metal layers, the filter matrix of the present invention is easily cleaned and can be re-used. In contrast, a fibrous batt type filter media will eventually plug with collected material. Further, since it cannot be easily cleaned, it will likely be disposed after it has plugged.

As such, the present invention provides a filter structure that avoids the use of fibrous materials and yet creates an effective filter matrix that removes smoke and particulate matter from cooking smoke. Moreover, it does this while minimizing the risk of fire due or loss of material from a fibrous material.

As a result of the design of the filter matrix of the present invention, the cooking smoke always flows in a labyrinthine pathway in order to contact at least one metal surface to which the particular matter and organic compounds will adhere so that they are collected. In order to achieve this labyrinthine pathway, the metal filter layers are stacked so that “each of said expanded metal filter layers has a major axis and a minor axis such that when said expanded metal filter layers are stacked, said major axis of one of said expanded metal filter layers is perpendicular to the major axis of the next adjacent expanded metal filter layer” (Claim 1). The Applicant submits that Beier does not provide or suggest the use of a filter structure having this arrangement of filter layers.

In contrast to the present invention, Beier provides a “high loft, non-woven fibrous fluid-permeable material” which is primarily used to collect liquids droplets in paint spray booths (emphasis added, Abstract, line 1). The Applicant submits that it should be noted that the Beier filter initially acts as a regular fibrous filter in which the paint droplets and particles merely collect on the fibers of the fibrous material. As such, the airflow originally is straight through the filter, as seen in Figure 4.

However, once the direct airflow path becomes partially clogged by the accumulated particles, the airflow begins to enter the fibrous material sideways through the sidewalls of the diamond shaped openings in the first fibrous mat, as seen in Figure 5. As such, the airflow is only then forced to make one minor change in direction in order to encounter fresh fibrous material. This results in reduced back-pressure across the filter, and extends the useful life of the filter. However, once the fibrous material is full of particulate material and paint droplets, it is discarded since the back pressure across the filter would increase to an unacceptable level.

Thus, the diamond shaped openings in Beier originally have no filtering function, and ultimately act only act to create an additional opening to the fibrous material when the direct flow route becomes blocked. Thus, the fibrous batt material(s) provide the only filtering effect, and the labyrinthine pathway *per se*, shown in Figure 5 provides little or no filtering effect, but only provides access to fresh fibrous material. As such, the Applicant contends that the Beier document would not lead the skilled artisan to the present invention as shown and claimed in the present application.

As such, the Applicant contends that the skilled artisan would not be lead to the present invention by the disclosure of Beier.

It is also noted that the Examiner previously indicated that the claims of the present application were allowable, but has rescinded that indication based on the Beier disclosure. However, the Applicant respectfully submits that the citation of Beier which relies on a fibrous batt material to filter an air flow travelling first straight through the filter, and then in a secondary manner, through a minor turn into the fibrous material, does not render the present invention obvious.

There is nothing in the Beier document which teaches the elimination of the fibrous batt material which is being used as the filtering media. The slight turn in the airflow of in the Beier filter is only used in order to access fresh fibrous batt material. There is nothing in the Beier document that would teach the skilled artisan to use expanded metal filter layers in a manner such each of the expanded metal filter layers has a major axis and a minor axis such that when said expanded metal filter layers are stacked, said major axis of one of the expanded metal filter layers is perpendicular to the major axis of the next adjacent expanded metal filter layer. As such, the Applicant contends that the Beier document does not render the present invention as obvious.

Claims 2, 15-21, 29, 36-38, 40 and 51-57, also stand as being rejected under 35 USC 103(a) as being obvious over Beier. The Applicant also respectfully traverses this rejection. However, since all of these claims are directly or indirectly dependent from an allowable claim, the Applicant respectfully contends that these claims are also allowable.

In view of these comments, the Applicant contends that the rejections under 35 USC § 103 should now be withdrawn, and that the claims of the present application should now be allowed.

Summary

The Applicant contends that the cited Beier document relies on the use of a fibrous batt material in order to achieve a filtering effect, while the present application relies on a specific arrangement and orientation of expanded metal filter layers in order to specifically eliminate the use of a fibrous filter material. Thus, the Applicant contends that the present application is not obvious in view of the cited prior art.

As such, the Applicant contends that the present application is in condition for allowance, and early notification to that effect is respectfully requested. However, should there be any further issues, the Office is requested to contact the undersigned by telephone to address any further matters.

Respectfully submitted,
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